

THE  
**MEDICAL JOURNAL**  
**OF AUSTRALIA**

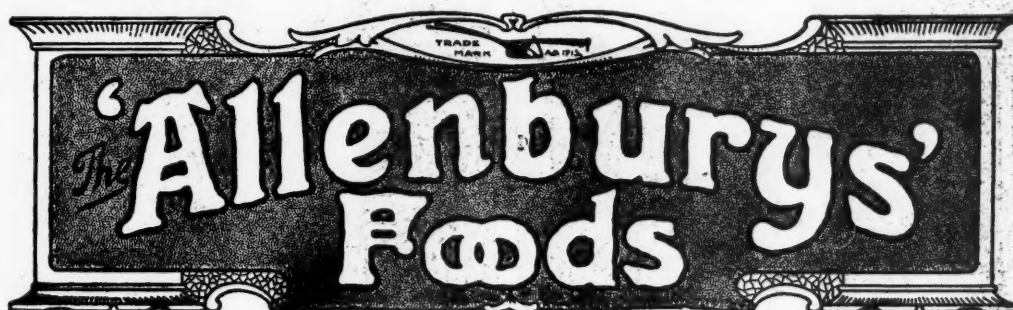
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VOL. I.—3RD YEAR—No. 25.

SYDNEY: SATURDAY, JUNE 17, 1916.

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# VIROL

# THE MEDICAL JOURNAL OF AUSTRALIA.

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No. 25.

WITH THE AUSTRALIAN VOLUNTARY HOSPITAL  
IN FRANCE.<sup>1</sup>

By George Horne, V.D., M.A., M.D., Ch.B.,  
*Lieutenant-Colonel, Melbourne.*

It was on August 4 that war was declared. On the 19th the Australian Voluntary Hospital mobilized at Ranelagh, and, nine days later, was leaving London for the front, ready to take its place—an equipped and self-contained unit.

It is difficult to give an idea of what was crowded into those few days. At first the Australian medical profession in England had to be rallied. That took a day or two, but was easy, for all were keen to offer their services. Then there was the task of keeping the men together. The A.A.M.C. men lectured and drilled in the old Westminster Hall, whilst Lieutenant-Colonel Eames, our Commanding Officer, negotiated with a congested and overworked War Office; and, equally important, secured the necessary sinews of war. Sir Lucas Tooth set our minds at rest with regard to this by leading off with £10,000, and more to follow—a good nucleus of good Australian money to the growing fund, of which Mrs. Popplewell took charge.

Lady Dudley, with Mr. Shields, had also made some preparations; so, amalgamating with them, the Australian Voluntary Hospital began, on paper at least, to have an existence.

But the heavy work only then began. Orderlies to pick and examine, clothe and drill; equipment to buy, everything from tents and waggons to scalpels and cotton wool, or saucepans and cooking stoves. And all this with the War Office doing the same thing, to the joy of the sellers and the despair of us who were purchasing.

The radiologist, Captain Harris, took toll of his friends, and, with the proceeds, obtained a complete X-ray outfit. The bacteriologist did the same; and so complete were all details that, when our chance came, twelve hours sufficed to make ready for patients.

It was intended that the hospital should stay in Southampton for a time. But our train ran on to the wharf, and the Embarking Officer ordered us on board, with three-quarters of an hour to load up about thirty tons of equipment. Officers and men went at it hard, and, in under the hour, our boat was zig-zagging out through the mine-fields, bound we knew not where: only we heard that our men had met the Germans near Mons, and that they were falling back.

The officers with me were Major Hamilton Russell as consultant, Captains Herschell Harris, R. Wallace, R. McDonnell, Studdy, S. Patterson, and M. Gardner, and Mr. Jent, Quartermaster.

Major Dick, Mr. Shields and Captain Reynell fol-

lowed with the nursing staff in a yacht kindly placed at our disposal by Lord Dunraven.

The next morning we ran through the locks of a big harbour, which we learned was Havre. A shed on the quay was placed at our disposal for equipment; and tents, at rest camp, a few miles out, were allotted to the personnel. The march through Le Havre was something of a triumphal progress, and at every halt cigarettes and wines were pressed upon us. The French cigarettes in particular, however, are an acquired taste.

Rest camps are so called, I am told, because they exercise the men there with a fifteen-mile march every day, and fill in their odd time with fatigues.

Our one night's experience of a rest camp commenced with an order at 11 p.m. to fall in and stand by. An hour later came the news that German armoured motors might be expected at any moment. This sort of thing kept up the whole night. We did not sleep, neither did we feel too comfortable. Next day, the possibility of an enemy advance being still imminent, all the camps were called in, preparatory to embarking.

The week spent at Le Havre was exciting and busy, but our surgical assistance was not much in demand. Every night there were one or two alarms, and the Belgians from Namur, who were being shipped off to Ostend and Antwerp, were hurried out to meet raiders. None, however, came within five miles. Our days were spent in assisting to evacuate the hospitals opened at the Casino and the Yacht Club, or helping with the wounded, who were hastily transferred from train to ship. It was principally slighter wounds that we saw. Our men were falling back all the time, and, though they did not at this stage leave behind all their casualties, they were unable to remove the graver cases. Later, at St. Nazaire, the serious cases came down; though still retreating, the Allies were beginning to check the rush. Then, at last, came German wounded as well as our own, who brought with them the welcome news of the Marne.

But whilst at Le Havre things still looked their blackest. The whole day transports were being hurriedly loaded with all the equipment of the base; they were steaming out and their places taken by others. Our turn seemed never to be coming, but amongst the last our transport moved out.

St. Nazaire, on the Bay of Biscay, was our destination and the new British base. The change of base was a striking illustration of the power of sea-command. Our lines of communication ran parallel with and at no great distance from the German advance. Cutting them would have brought annihilation to the British. Not the least marvellous feat of those marvellous first four weeks was the establishment of entirely new lines of communication when everything seemed tumbling into chaos.

I wish to emphasize this, because so much criticism has been indulged in concerning the state of

<sup>1</sup> Read at a meeting of the Victorian Branch of the British Medical Association on February 2, 1916.

the wounded who were brought down to the base. Here it was that the Australian Voluntary Hospital began in earnest. A private hospital and an adjoining school were utilized for officers and severe cases, but all the men with minor injuries were accommodated in tents at our camp.

With the deficiency in rolling-stock and the blocking of the lines, it took days sometimes to bring the casualties from the front. Nor was the system of prophylactic anti-tetanus injections yet possible. In consequence, our cases were septic—infected with tetanus and gas gangrene. For a fortnight our consultants, Major Thring, Major Hamilton Russell and Mr. Shields, were kept busy, and then things commenced to run less hurriedly and more smoothly.

By this time the enemy's first thrust had been staved off, and the line of defensive trenches established.

Boulogne, immediately behind the twenty-five mile section held by the British, became the base. We were held up a week or more, until it was certain that the line of trenches would hold. Then a train was put at our disposal and the Australian Voluntary Hospital took up its final quarters, just outside Boulogne, at Wimereux.

Our train ran up the siding to the Golf Hotel. Orders awaited us to get ready at once for receiving our full complement of wounded or more. It was the day of the first battle of Ypres. Within twelve hours they commenced to arrive, and from then onwards it was day and night work until, after a week, the strain began to relax. That was the heaviest week for the hospital. Not only were the consultants all absent, but the building had to be emptied of furniture, cleaned, equipped and fitted up. And all the time the patients were pouring in.

Later we had with us Mr. Thring, as well as Sir Alexander MacCormick, Major Chisholm and Sir David Hardy.

The work used to come in rushes; a week at fever

heat and then a lull for a fortnight, with only the trench wastage coming down.

In the intervals, there were statistics to compile and a thousand odd jobs. A perusal of the classification of the 7,000 cases treated by us up to September, 1915, showed some interesting points bearing on our examination of recruits in Melbourne.

Injuries in action formed about two-thirds of our cases. This is the first time that any British expedi-

tion has had an excess of casualties from wounds over the number of men incapacitated from disease. Rheumatism (including myalgias) gave 16% of all our cases; it was noted that in a large majority of them there was a previous history. Respiratory diseases, most of them being conditions from which the men had

attacks before enlisting, gave 7%. Epilepsy supplied 0.8%.

All these conditions could be easily missed by the examining medical officer on enlistment, if the man were not questioned. The desirability of securing a statement from the recruit is consequently most important.

Defective teeth were present in 4% of our total,

but that does not represent the proportion that came to the base. The man with a plate has the medical officer in his power, for nothing is easier than to break it, and so secure a visit to the base. This also applies to varicose veins and varicocele. The cases of varicocele that caused trouble were very few. Not more than 2 in 1,000 of the patients were admitted to the hospital for this condition. I

regarded most of these as using the condition as an excuse. The same thing applies to hæmorrhoids.

The residential golf-house of the Wimereux Golf Club made ideal quarters for our officers' mess; and the large dining room and lounge made it easy to entertain a medical audience. A tri-weekly sitting was inaugurated by Lieutenant-Colonel Eames, and all the British

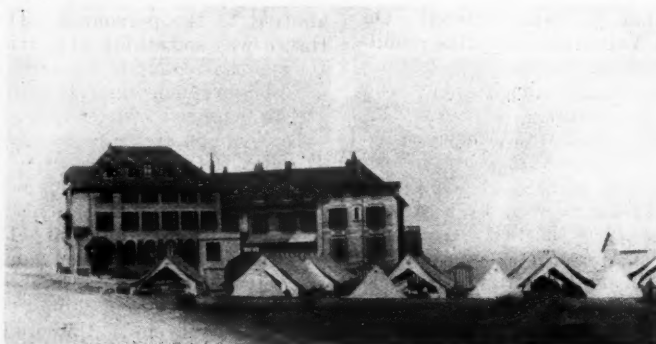


Fig. I.  
Australian Voluntary Hospital at Wimereux.



Fig. II.  
Australian Voluntary Hospital, Officers' Tents Blown down at Wimereux.



medical talent from Rouen to Calais honoured us.

One of the most interesting meetings was that at which the treatment of wounds was discussed. Sir Almroth Wright opened the discussion. I will try to give you a short resumé. But when a man teaches that in the treatment of wounds antiseptics were futile, counter openings in dependent parts a mistake, and drainage tubes a snare, it needs the presence of his strong personality to enforce immediate belief.

Bullet wounds were seldom clean cut. The German bullet, with its high centre of gravity easily turned over, and ricochets from external objects or from bone were very common. This was particularly noticeable when the loop-hole was the target. The arrest of forward movement increased its rotary force, and this communicated a centrifugal movement of bruising to all the tissues traversed. So it came about that the fascia would be perforated but the muscles beyond would be widely gashed, and a series of bottle-mouthed cavities ensue.

With the low-velocity shrapnel bullets, and the jagged fragments of shell, the spinning movement was greater and the bruised lacerations more.

Infection was inevitable. The North of France is an area where intense cultivation is of centuries' standing. Skin and clothes became alike impregnated with faecal contamination. The low-velocity, much-rotating projectile invariably carried in fragments of clothing. The speediest attention at the base was unable to forestall microbial infection. The anaerobes, *bac. tetanus* and *bac. perfringens* (*bac. aerogenes capsulatus*), with streptococci, were the most virulent forms. Besides these staphylococcus, *bac. proteus* and a diphtheroid bacillus were found. In dealing with wounds, Sir Almroth Wright pointed out there were three methods of treatment: (1) By antiseptics, (2) by physiological methods, and (3) by vaccine therapy.

A series of experiments were undertaken at No. 13 General, Boulogne, to determine the effect of the blood serum on the microbes found in the wounds. It was found that, even with anaerobic conditions, the growth of all except streptococci was inhibited. This led to a division into serophytes that could live in serum and serosaprophytes to which the blood serum was fatal unless it were corrupted or degenerated.

The experiment was repeated in the wound itself. A little cupping glass, lightly exhausted, was placed on the surface of the wound. In the serum sucked

into it were found actively phagocytic white cells and a pure streptococcal culture. Outside the glass, degenerating white cells were surrounded by all sorts of microbes.

The hypothesis to account for this difference in neighbouring parts of the same wound is that the serosaprophytes get no nutrient until a change takes place in the albuminous substances of the blood serum. This change is of a digestive or fermentative nature, and is originated by the trypsin from the interior of broken-down white cells. In the serum there is an antiferment which checks the digestive process and thus robs the serosaprophyte of its pabulum.

Serum heated to 60° C. or mixed with trypsin forms a good culture medium. From these experiments it appears that the uncorrupted serum poured into the wound is unfavourable to the growth of the majority of microbes.

A further series of experiments was conducted with what are styled emigration tubes. In these capillary tubes blood is drawn up and centrifuged.

Red cells and polynuclears would be at the lowest level, then polynuclears, mononuclears, and, lastly, fibrin, in that order. If the fibrin had a solution containing microbes centrifuged into it, movements were exhibited by the white cells.

This was quite different to the ordinary wandering of these cells, and showed a purposeful march towards the individual germs.

Experiments showed that: (1) Anaerobic conditions favoured the movements, (2) 40° C. was better than 37° C., (3) normal saline favoured but 5% solution suppressed it.

With regard to antiseptics in the treatment of septic projectile wounds, it is contended that these wounds cannot be sterilized. There are too many pockets and blind alleys, and the microbes lie deep beneath the surface, beyond all reach of antiseptics, none of which have sufficient penetrative power.

The impracticability of sterilization is shown by the necessity for repeated dressing, which would not be called for if the first dressing were capable of destroying every bacterium.

Antiseptics do undoubtedly reduce the number of microbes, but this reduction is only temporary, and, within a few hours, there are as many as the wound will hold. Their number is only limited by their food supply. Antiseptic dressings and methods prevent the spreading of grave infections such as used to be common at military hospitals, but it is not a corollary that they are beneficial to the wound itself.

On the other hand, it is maintained that they: (1)



FIG. III.  
Part of Australian Voluntary Hospital at St. Nazaire.

Affect emigration disadvantageously, (2) paralyse phagocytosis, (3) favour corruption of the lymph, (4) diminish antitryptic power of serum, and (5) in some circumstances stimulate microbial growth.

Physiological methods in treating wounds may follow the usual surgical methods with advantage and improve on them.

If an abscess exist, the mass effect of the microbes is overpowering the tissues. But when this is opened the mass effect is reversed, and, to aid this, the following desiderata must be sought: (1) To wash the microbes out of the indurated walls, (2) to carry the necessary phagocytes, (3) to supply a suitable medium for phagocytosis, (4) to repress bacterial growth, and (5) to avoid diminishing the antitryptic power of the lymph.

All these objects are attained by continuous lavage with hypertonic saline (5% solution). One half per cent. of sodium citrate can be added with advantage, since it checks the coagulability, which the presence of pus increases. The method of applying the irrigation is important, for, to be effectual, the fluid must come in contact with the whole of the wound wall.

Drainage tubes will effectually defeat this end, especially if drainage be in a dependent direction. They carry away the fluid and at the same time shield the walls from its action.

Drainage of a dependent opening by gauze is equally futile, for it soon becomes choked.

This may be seen if a funnel of fouled water be drained by a wick coming out of its lower small opening. The dirt chokes it at once.

If there be substituted a gauze wick as a siphon and a continuous inflow, all but macroscopic particles will be carried upward.

The foregoing briefly describes Sir Almroth Wright's methods. A continuous siphoning in of hypertonic saline and concomitant siphoning out; both accomplished by gauze wicks. The hypertonic solution, by the laws of osmosis, causes a copious discharge of lymph, which washes through the indurated walls, cleansing them and destroying the microbial attack.

This was one of our discussions, but others were given on compound fractures of the femur, gun-shot wounds of the chest, gun-shot wounds of the cranium, gun-shot wounds of the abdomen, gas poisoning, and gun-shot wounds of joints.

Our final meeting was an exhibition of splints and apparatus. It was so successful that it is to be reproduced in London.

#### SOME FUNCTIONS OF THE THYROID GLAND AND THEIR RELATIONSHIP TO GOÏTRE.<sup>1</sup>

By Sydney Pern, M.R.C.S. (Eng.), L.R.C.P. (Lond.),  
Melbourne.

The supreme importance of the thyroid gland and how it controls the metabolism and well-being of

the individual has begun, during the last few years, to attract the attention of many of the advanced thinkers of our profession. A great deal, however, is speculative, but when supported by clinical observations the interpretations of some of its functions are worthy of grave consideration, and a closer investigation may lead in the near future to some radical changes in the treatment of disease generally.

The object of this paper is to bring forward some ideas regarding these functions and their relationship to goitre.

The thyroid is a gland of complex functions, and it is this very complexity which has baffled many and led to such diverse opinions about them. The first and foremost of all, in my opinion, is its power of destruction of, or dealing with, toxins. To prove this, much evidence must be forthcoming.

We start with the assumption that the body has the power to hypertrophy almost any tissue, provided that the stimulus or need is there, and also that there is a balance maintained in the action of every gland or organ by certain mechanisms, either nervous or harmonic.

In going into the literature on goitre, and especially thyrotoxic goitre, of which Graves' disease is its worst form, many and various have been the causes attributed. This multiplicity has been most baffling, but in sifting out the matter more thoroughly one can begin to see daylight.

These can be brought under three heads: (i.) toxic, (ii.) vaso-motor, and (iii.) those associated with calcium metabolism. Rupert Farrent's work on the result of injecting certain micro-organisms into animals shows the result of these inoculations on the thyroid gland. He divides them into three grades: (a) Those which produce no effect; (b) those which produce an increase of colloid and chronic hyperplasia; and (c) those which cause an acute or complete hyperplasia.

Of those which have action, the results all tend to the same end, but with marked differences in intensity: first increased output of colloid, showing the vesicles engorged, then changes begin to take place in the epithelium lining the vesicles, showing increased secreting area lined with cells of a less mature type, and the vesicles themselves empty, indicating rapid absorption of a probably impaired secretion. These changes are not only produced by the injection of micro-organisms, but also by poisons, such as abrin and ricin. The only conclusions that one can come to are that the thyroid has been called upon to secrete beyond its normal capacity, and as the stimulus increases so is the output greater, and of necessity in time, if the stimulus be urgent, becomes poorer in quality. A constant stimulus applied to a gland must lead in time to hypertrophy, and so we find the thyroid enlarging, which we call "goitre." I cannot emphasize too much that goitre is the result of a constant call upon the thyroid's activity, and that call is due in a large num-

<sup>1</sup> Read at a meeting of the Victorian Branch of the British Medical Association on May 3, 1916.

ber of cases to toxins. In none of the experiments made were micro-organisms found in the thyroid.

Referring to McCarrison's book on goitre, I quote the following:—

"Wilson has also produced goitre in rats in the same way as Bircher, and has satisfied himself that water filtered through a Berkfield filter produced goitre in rats, just the same as that which was not filtered.

"Pepin (1910-11) produced goitre in rats by giving them water from a notoriously goitrous locality, and was not able to render the water innocuous by a temperature of 99° to 100° C. for several minutes."

McCarrison shows that goats developed goitre after being given water passed through soil containing excreta from goitrous goats, but no organisms were ever isolated. When trout were bred and kept confined in small areas in certain streams, they developed goitres, but those above and below the hatcheries were free from goitre. I think this undoubtedly points to toxins as being the agent, as below the hatcheries, where wild trout lived in ordinary numbers, no goitres were found. If any micro-organisms had been the cause, some of the trout below must have sooner or later become infected; no organisms were found in any of these cases. The toxins of different micro-organisms react differently, and with different intensities. There are the slow types of goitre, often very large with increased colloid, where the stimulus supplied is slow and persistent, but not urgent, and, on the other hand, in markedly thyrotoxic goitres, slight enlargement, with a great outpouring of secretions, the stimulus being of recent origin but very urgent.

In an article on hypothyroidism, I pointed out that certain chronic infections threw a great strain upon the gland, which resulted in its gradually failing. This is shown very often in cases of tubercle of long standing, where signs of hypothyroidism are frequently seen if carefully looked for, such cases responding remarkably at times to the exhibition of thyroid extract. In tuberculosis of the young the thyroid will very frequently be found to be slightly enlarged, although never to the degree of being classed as a goitre.

In thyrotoxic goitres of a mild type, and in pronounced Graves' disease, how often is a septic focus found if investigation is carefully carried out? It has been my custom of late to make a most exhaustive examination for some septic focus in these cases, and with most gratifying results, which have shown that infection has been found in tonsils, antra, sinuses and at the roots of teeth. These are by far the most common localities for infection, and there is nothing so gratifying as to find such a focus in a patient with marked thyrotoxic goitre, as one can then feel sure of doing some lasting benefit. In so many cases recently has a septic focus been found by me that I am almost driven to the conclusion that there must be one somewhere in the large majority of cases of pronounced Graves' disease. A suppurating frontal or ethmoidal sinus, and even a suppurating maxillary antrum, may be present for years and never present symptoms which may direct attention to them. Again, teeth which are not tender and

are to all appearances sound and good may become infected at the roots through the blood stream, yet, on removal, they may show polypoid granulations at the roots.

On working on these lines on a large number of cases, I have had very marked success, as, after the septic focus is removed, the thyroid responds readily to medical treatment, and in not a single case has there been the slightest call to remove any of the gland.

There are cases on record where the majority of the thyroid has been removed, yet, after a year or two, the remnant had grown into quite a large goitre again, such a case probably had a septic focus pouring accordingly. Those who show symptoms of hypothyroidism to hypertrophy.

During pregnancy, the thyroid frequently enlarges, being called upon, so I should surmise, to do increased work in destruction of toxins, which, if unable to be dealt with, lead to albuminuria of pregnancy, premature death of the fœtus and eclampsia.

It has been my rule to employ thyroid extract in these cases, combining its use with the ordinary routine methods, and it is remarkable how quickly and to what an extent the albumin clears up.

One woman, showing distinct signs of hypothyroidism, with excessive fat, had eight pregnancies; on every occasion she had marked albuminuria, with œdema and albuminuric retinitis; every baby was either born dead or died just after birth. In a large proportion of such cases the patients depicted signs of hypothyroidism. I could quote quite a dozen of cases of this kind.

From the foregoing, one can legitimately deduct that, where certain toxins are present in the body, the thyroid is called upon to increase its output for their elimination and destruction.

In some cases the call is not urgent, but slow and persistent; in others it is urgent, the symptoms varying accordingly. Those who show symptoms of hypothyroidism are more prone to disease than others, and if they get an infection, such as influenza, pneumonia or tuberculosis, are usually much worse than others and more liable to succumb. This is well illustrated in specific cases where the thyroid has been subjected to prolonged strain, by the number of patients who fall victims to tuberculosis and malignant disease, etc. Alcoholics show the same tendency. A condition of alcoholic myxœdema is induced; a powerful vaso-dilator, being constantly absorbed, in time inhibits the natural circulatory adjustments of the body.

The next function of the thyroid relating to goitre is its vaso-dilatory function. The vaso-motor system is largely made up of the sympathetic-adrenalin system, with the pituitary on the one hand and the thyroid on the other, under control of the vaso-motor centre. The adrenals are remarkably under the influence of the emotions. We have many cases authenticated from reliable sources, in which exophthalmic goitre has appeared suddenly after great



shock or fright. In these cases, it seems reasonable to surmise, the symptom-complex arises by the upsetting of the vaso-motor system; the adrenals suddenly discharge into the system an excess of secretion which has to be met by a correspondingly large thyroid output. This brings about a derangement of the normal balance of affairs, which cannot be readily re-adjusted.

The third function is that of the metabolism of calcium salts.

This was dealt with at some length in a previous article by me, but the conclusions which were come to may be briefly summarized thus:—

In Gippsland, goitre with mild thyrotoxic symptoms is very prevalent; many people suffer from thyrotoxic symptoms, but show no appreciable thyroid enlargement. The conditions of life are such that the people, especially the children, get an insufficient quantity of lime; rain water is drunk, vegetables are scarce, and the children, who have so much milking to do, get to hate the sight and smell of milk, and, consequently, will not drink it. It must be remembered that milk is the chief source of available lime for children. When people who suffer from goitre are asked if they drink milk, they usually answer "No." In a family of eight, two showed goitre. All were brought up under the same conditions, except that the two with goitre would not take milk. It is nearly always the one, who takes no milk, who has the goitre.

When treated with calcium salts, a large number of these goitres vanish or diminish considerably in size, particularly if they are in young people and are not of long standing. Children with goitre will often grow very rapidly for a month or two when put on calcium, indicating that they were not getting a sufficiency of it.

Under certain conditions it is possible to overcharge the body with calcium. This can be done with sodium salts, as the following case will illustrate:—

Mrs. C. was suffering with exophthalmic goitre. She became pregnant, and came for treatment. She was put on calcium lactate (grs. 30 daily). She continued this for the period of her pregnancy. Towards the last month or two, she began to gain very considerably in weight; her legs, arms, face and whole body became swollen and hard, a condition resembling myxœdematous infiltration. There was no pitting on pressure, and the urine showed no albumin. She appeared to be quite well, and, consequently, her condition caused no alarm. Her confinement was normal, and the loss after birth quite small; a great contrast to what usually occurs in such cases. Within 48 hours of birth the swelling left her completely, and she was quite thin again. This was accompanied with marked diuresis. Such is often the result of giving thyroid extract to markedly myxœdematous patients, and rather suggests that myxœdemic infiltration is due to lime retention in the tissues.

The foregoing strongly suggests that if the calcium metabolism is not properly carried out the thyroid cannot functionate properly, and that with de-

ficient calcium intake under certain circumstances, goitre develops. All these types of goitre show mild thyrotoxic symptoms, with an increased output of iodine. Associated with thyrotoxic symptoms and increased output of iodine we have increased excretion of calcium salts and a gradual lowering of the normal calcium content of the blood and tissues. Now, if the supply of calcium entering the body is deficient, some means have to be adopted to keep up the calcium content of the blood. This must be kept within reasonable limits of a certain standard at all costs; consequently, the body tissues and bones are called upon to supply the deficiency. Rabbits fed on thyroid extract show marked changes at the epiphyseal junctions of their bones, the changes being increased vascularity and softening.

Taking the other side of the question, we find that goitre has been most disastrous in its effects in limestone, hilly country, but the difference in this type of goitre is that there are no thyrotoxic symptoms, and many of the patients improve on the administration of iodine or thyroid extract.

If it is the duty of the thyroid, plus the parathyroid, to control the calcium metabolism, and if the body is constantly getting a large supply of this element to deal with, the thyroid will in time be put to a strain and hypertrophy will result, and soon its iodine-producing properties, which excrete the excess calcium, will become impaired, the hypertrophy in these cases often reaching an enormous size. These large goitres, on examination, have been found to be markedly deficient in iodine.

As regards the calcium metabolism and its relationship to goitre, the foregoing ideas strongly suggest that they play a large part, and there may be other factors at work, but I fully believe that if there were more calcium in Gippsland and less in the goitrous areas in Switzerland and other parts, that goitre would not be so prevalent as it is. The question why some cases of septic absorption and not others develop goitre may possibly be answered by the fact that those, who have a sufficiency of calcium entering their bodies for the proper performance of the functions of the thyroid, will be less liable to develop goitre than those, who are receiving a deficiency.

The opportunity for supporting views by laboratory experiment is not given to many, and, therefore, observation, deduction and imagination have to be largely drawn upon.

In conclusion, we must recognize the complexity of the functions of the thyroid. The interference of any one of these functions, either singly or in combination, may produce hypertrophy, provided that the stimulus to secrete for any particular function is beyond the normal limit. We must also realize that goitre is the result of a response to a stimulus from various sources, and of varying degrees of intensity.

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Sydney Pern—*Victorian Medical Journal*, November 9, 1912.



## Reports of Cases.

### A SUCCESSFUL CASE OF ŒSOPHAGOTOMY FOR THE REMOVAL OF A PLATE OF FALSE TEETH.

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The case about to be described is that of Mrs. Q., of Grenfell, New South Wales, who swallowed a plate of false teeth in August, 1915, while yawning.

She immediately summoned medical assistance, and as attempts to dislodge the plate failed, she was despatched to St. Vincent's Hospital, where she came under my care.

She then had a temperature of 100°, marked swelling of the neck, and though she could swallow liquid food, it gave her considerable pain.

X-ray examination showed the plate lodged in the œsophagus, at the upper end of the sternum, also emphysema at the root of the neck on both sides (Dr. J. G. Edwards, radiographer).

An anæsthetic was given and œsophagoscopy performed by Drs. Seaward Marsh and Alexander Dunn, who could get but a faint glimpse of the body in the distance, on account of the swollen, cedematous condition of the œsophagus and larynx.

A cutting operation was therefore necessary. A vertical incision, one inch from the middle line, was made from the upper margin of the thyroid cartilage to the upper border of the sternum.

As the patient's neck was very short and thick, the skin incision was extended laterally at right angles to the vertical incision,  $\frac{3}{4}$  inch above the clavicle.

The sternal region of the left sternomastoid muscle was cut through, the outer parts of the sterno-thyroid and sterno-hyoid muscles pulled medially, and the left lobe of the thyroid gland drawn forwards.

The carotid sheath and contents were then retracted laterally and the left inferior thyroid artery ligatured and cut. The œsophagus was then readily defined and the access found excellent. A longitudinal incision was made through its wall, and the teeth delivered with the greatest of ease.

As the œsophagus was ulcerated through and in a very friable state, no attempts at suturing were made, a drainage tube being put down to the opening and packed round with iodoform gauze.

The patient was well nourished, so rectal feeding was administered for a week, only water and a solution of boracic

acid (grs. vii. ad.  $\mathfrak{z}$ i. of water) being allowed *per os* during that period.

The gauze was removed in two days, the tube in five days; within six days no fluid escaped on swallowing, and by the end of a fortnight the fistulous tract had healed completely.

A letter from the patient, dated November 8, 1916, informed me that in no way did she feel any ill-effects from her misadventure.

The majority of foreign bodies that have passed through the pharynx into the œsophagus lodge in the superior aperture of the thorax (*c. Hacker*). This is due, according to Krönlein, to the fact that the œsophagus is surrounded in

the neck by soft, non-resisting structures, and then passes through an unyielding, bony ring into the thorax.

Fischer insists that a foreign body recently swallowed, which cannot be extracted by other methods, be removed before the end of the second day, pointing out that the longer it is left the higher is the mortality. In investigating 184 cases, he found there were 45 deaths, approximately a mortality of 24%. This high mortality is due to late operation. Death arises from ulceration and perforation of the œsophagus, œsophageal gangrene, erosion of blood vessels and exhaustion.

The case under discussion showed several interesting features, and I publish it on that account, for the performance of the operation itself was extremely easy.

(1) The plate had lain in the œsophagus for five days before operation, and had ulcerated through it, yet an uninterrupted recovery resulted.

(2) It was impossible to remove the plate by œsophagoscopy, and this was fortunate, for it was a sharp body and had ulcerated through the œsophagus, and even had it been possible to extract it piecemeal by these means a fatal result would probably have resulted from a septic mediastinitis.

(3) The quickness with which the opening in the œsophagus closed, in spite of its ulcerated state, for within a week all leakage from the œsophagus had ceased.

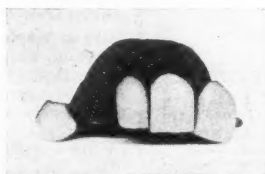
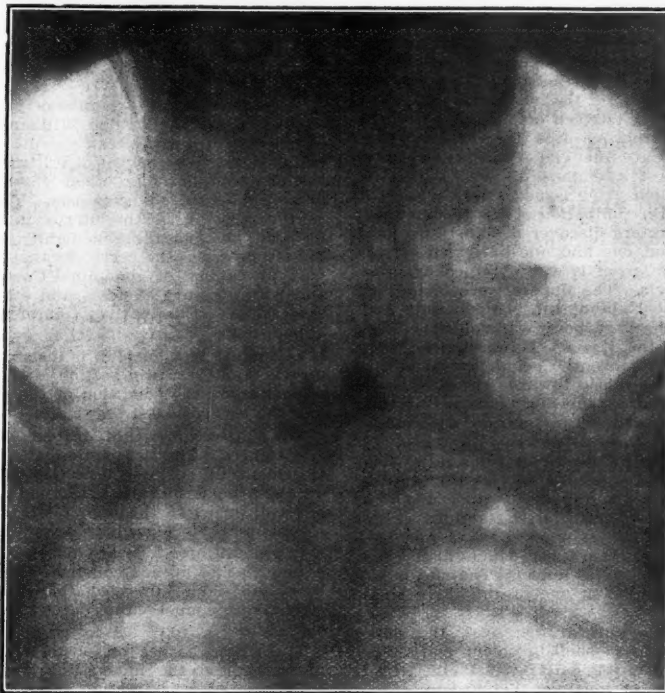
(4) The access to the œsophagus, as described above, was so good that it would have been possible to have extracted the teeth from the level of second dorsal vertebra.

### HISTORY OF A SMALL URINARY CALCULUS.

By John B. Nash, M.D., B.S., M.L.C.,  
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Male, æt. 46 years. Diagnosis: Urinary calculus in right ureter.

What were the initiating chemical or physical actions which commenced its growth? In which part of the anat-



omy of the kidney did these take place? Why was it dislodged from its seat of formation? At what date did it enter the upper end of the ureter?

The reply to each of these questions: No information.

One might enter into a long discussion as to the probabilities surrounding any of them. Whence arose necessity for investigation? The man complained of pain in the right iliac, the pelvic and the penis regions. A search for signs elicited nothing definite. Chemical examination of the urine added but little to our knowledge. The indications, on an X-ray plate, were read to be a calculus in the ureter, near to the vesical opening. Cystoscopic examination of the interior of the bladder, including a careful survey of both ureteral orifices, resulted in belief that the left orifice was larger than the right. Suprapubic cystotomy revealed an absence of fat in the subcutaneous tissues and in the cave of Retzius distended veins on the dome of the bladder, delicate fibrous, with thin muscular and mucous layers pertaining to the wall of the viscus, a capacious interior easily accommodating thirteen ounces of lotion, the surface of the mucous membrane free from macroscopic disease, the ureteral orifices at either end of the inter-ureteric bar, which was the base of a trigone of average size, a larger left orifice from which urine issued freely while the smaller right orifice was dry. Palpation of the bladder wall along the course of the ureters discovered something hard on the right side, and about one and one-half inches from the ureteral opening, definition of it was obtained by pressure against the bony pelvis. The fingers were insinuated deep into the pelvis to the right of the bladder wall, and, when outside the ureter, the hard body was rolled between fingers inside and outside the viscus. Manipulation failed at this and earlier stages to move the pebble onwards into the bladder. The ureter was raised towards the surface by the fingers inside the bladder, an incision made in the tube and a small calculus delivered. The incision was closed with a continuous catgut suture.

The concretion of alternating layers of lime salts, held together by layers of glutinous, red-stained organic matter, was shaken (?) from its point of origin, and, dropping into the urine stream, was by this and the actions of the muscular wall of the ureter moved onward till it was held in the mucous membrane of the tube, which here must have been unusually small as to its lumen. The site is not recognized by anatomists as being one of the three small diameters of the ureter.

The stone weighed but a few grains, oval, the outer layer incomplete, resembling egg-shell in colour and thickness. Much larger specimens pass daily, with facility, from the renal pelvis to the urinary meatus. Yet urgent symptoms, resulting from this obstructing stone, demanded surgical intervention to terminate its history within the body.

The chemico-physical properties pertaining to fluids containing lime salts tends towards their being deposited. They, active in the urine, lead to the formation of stones, most commonly by layering, occasionally, and in a calyx, after the manner of stalagmites, the drop from the renal tubules, adding crystal upon crystal, building spikes accurately moulded to the minute water channels. The sharp edges of the crystals wound the delicate tissues, hæmorrhage follows, hence the dark coloration of part or all of nearly every renal calculus.

One or two retractors, with electric light attachment, are of much assistance when a careful examination of the interior of the bladder is desirable. A vaginal speculum, 4½ in. long and 2 in. wide, was fitted with a light for me some years ago. A somewhat similar instrument is advertised in recent publications arrived from the United States of America.

## Reviews.

### THE PRINCIPLES AND PRACTICE OF OBSTETRICS.

In Dr. Lee's "Principles and Practice of Obstetrics,"<sup>1</sup> the latest American text-book, the author sets a very high stan-

<sup>1</sup> The Principles and Practice of Obstetrics, by Professor de Lee, Professor of Obstetrics in the North-Western University Medical School. Second edition, thoroughly revised; 1915. Philadelphia and London: W. B. Saunders and Co. Pp. 1087, with 938 illustrations, 175 in colour. Price, 34s.

dard in the science and art of obstetrics, the outcome of an extended experience as an obstetrician and a teacher.

The subject matter is divided into four parts: 1. The physiology. 2. The conduct. 3. The physiology of pregnancy, labour and the puerperium respectively. 4. Operative obstetrics.

The anatomy and mechanism of the three stages of labour are well described and profusely illustrated. Latin terms and abbreviations in the nomenclature of the different presentations take the place of English equivalents usually adopted in British text-books. The author further complicates terminology by using *abruptio placentæ* for accidental hæmorrhage, and *anærosis* for asphyxia or *apnoea neonatorum*. The completest details of the aseptic conduct of labour are given. In the care of the infant the tub-bath is not advised until the umbilicus is healed, and "the navel is treated like any surgical open wound."

In discussing the toxæmias of pregnancy, the writer does not agree with Whitridge Williams that the toxic form of *hyperemesis gravidarum* can be diagnosed by the ammonia co-efficient of the urine. A critical account of the different theories and most practical details of the treatment are given in regard to eclampsia. The author advocates the rapid emptying of the uterus in deep narcosis after the first fit, and, speaking generally, this is done by manual dilatation, when the cervical canal is obliterated, but otherwise by vaginal or abdominal Cæsarean section. Narcotics and morphine are avoided, and ether is always used as an anæsthetic. Eliminative treatment is regarded as disappointing.

Treatment in a hospital is insisted on in cases of placenta prævia, and Cæsarean section is advocated when the patient is near term, the condition of the mother and child is good and the cervix closed and rigid.

The entire subject of dystocia is dealt with most fully and clearly. The description of and the general rules for treatment in pelvic contraction are in accord with those of most modern authorities. Induction of labour is not advised, owing to the high foetal mortality, and the sphere of pubiotomy is regarded as very limited.

Puerperal infections are discussed in a lucid and practical manner. The author concludes that the infected uterus is best left alone provided there is no hæmorrhage. He strongly denounces the curette, and regards its use as criminal.

The final chapter on obstetric operations is eminently practical, and the illustrations most excellent. The consideration of axis-traction forceps is disappointing. In a book so replete with illustrations we miss a figure of a modern pair of such forceps. The deterrent remarks on axis-traction forceps will have little influence on those who have proved their advantage over ordinary long forceps. The statement is made that "in all axis-traction instruments there is the possibility of the curved arms or joints bending or breaking under the powerful force applied, having witnessed three such accidents myself." We have always held that powerful force should not be used in forceps extraction, and have therefore never seen such accidents. Such undue force may seriously damage the maternal soft parts, and points to an obstruction so marked that forceps is probably not the best treatment. The author is in sympathy with the modern tendency to increase the scope of Cæsarean section.

In the preface it is explained that, although rubber gloves are regarded as essential for aseptic work, they are omitted from the illustrations because "the artists complain of their splotchy appearance and lack of detail, which hinders the expression of action so necessary in depicting operative procedures."

As a whole the work may be regarded as an eminently practical and valuable addition to the many text-books on obstetrics. Being too comprehensive it cannot be recommended for the average student. It will prove invaluable to teachers of obstetrics, and the practitioner who wishes to be up-to-date in his obstetric work will be well repaid by its careful perusal.

The general get-up and printing are excellent, and the photographs, coloured drawings and illustrations show a high degree of artistic skill.

## The Medical Journal of Australia.

SATURDAY, JUNE 17, 1916.

### The Healing of the Maimed.

Out of a suggestion has grown a requirement; out of the requirement an imperative necessity. But in spite of the urgency of the demand, those in authority still preserve an ominous silence and adopt an obstinate attitude of doing nothing. In January of the current year we published an eminently sensible letter from a correspondent, signing himself "Aviator," suggesting that specially trained orthopædic surgeons should be employed at the front to look after the welfare of the maimed and to institute timely treatment, with the object of restoring lost functions to the limbs of wounded soldiers. He supplemented this suggestion by a second one. When the men could be brought back to the Commonwealth, they should find adequately-equipped orthopædic departments in the hospitals, where the treatment begun early might be continued until the results aimed at were attained. We ventured to support our correspondent by inviting a free exchange of opinion in regard to the best manner of giving effect to this excellent proposal. A few weeks later, Dr. R. B. Wade, in an able letter, gave the idea further impetus, and urged the recognition of the very real gap that exists in the methods of treating our wounded soldiers. This gap, he tells us, must be bridged over by the followers of orthopædic surgery. Must, not may! Then came silence; silence in the profession and eloquent silence in the administration of the Australian Army Medical Service. While we were mute, orthopædic surgery was being applied as a science by the Germans; excellent work was being done by the Americans in France, and the French themselves were working steadily in this direction. More recently this class of surgery has been pressed to the fore in England, and the War Office has been taught of the immense economic importance of the matter. As a consequence of this recognition, Lieutenant-Colonel Robert Jones was appointed Inspector of

Military Orthopædics early in April. And still nothing is done in Australia. Orthopædic surgeons are ready and willing to carry out the work as skilfully and as energetically as the men in Europe. There is therefore no excuse for delay on this score. The number of men limping, maimed for life, because timely aid was not forthcoming, is evidence of the need for the institution of a properly-organized orthopædic system. Given the need and the means to carry out the scheme, we seek in vain for a reply to "Aviator's" question: "Why not do it now?"

In order that there may be no misunderstanding, a working scheme should be set up. This could be modified, amplified or replaced by a better scheme. In the first place, the surgeons at the base hospitals should be required to classify the cases in such a manner that those wounded men who need orthopædic treatment should be grouped together, and, when well enough to be transferred to the convalescent hospitals, they should be placed under the care of capable orthopædic surgeons. Special departments should be equipped in these hospitals, so that every facility would be given to the work to be begun without delay under favourable conditions. Masseurs and masseuses should be employed, both at the base and in the convalescent establishments, to carry out the behests of the surgeons. When the men are sent home, they should be conveyed in special hospital ships, on board of which orthopædic apparatus of modern design should be provided. They should be under the charge of capable specialists and time, money and energy should be expended in the endeavour to save the functions of the injured limbs. On their arrival in Australia, these men should be drafted to a special hospital, staffed and equipped exclusively for orthopædic work. The specialism should be encouraged in every respect, for the successful results of this work mean the restoration of full mechanical power to the individual and the saving of immense sums of money in pensions to the community. The Military Orthopædic Hospital should be placed under the management of the most highly-trained orthopædic surgeon in Australia, and his rule should be absolute in so far as the management of the cases is concerned. The military authorities will do well to study the pioneering work of Robert Jones, of Lovett, of E. G.



Abbott, and of Mencière to satisfy themselves of the reality of the benefit to be derived from modern treatment of injuries to the human mechanical apparatus.

#### PHYSIOLOGY IN THE WORKSHOP.

It has been usually held that the questions involved in the struggle between capital and labour, or rather between employers and workmen, are economic and social. The employer has endeavoured to obtain long hours, low wages and speedy production. The workman has sought to lessen his hours of toil, to increase his pay and to diminish his output. The employer has hoped to lower his cost of production or to buy his labour as cheaply as possible. The workman has striven to sell his service as dearly as he can to get more for his comfort, for his recreation and for his enjoyment of life. He has favoured the "slow stroke," because he believes it assists in creating a larger demand for labour. Economists argue that prosperity in an industry is only consistent with cheap and rapid production. Social reformers suggest that the wages of the workman should not depend on the prosperity of any industry or on the skill of the workman, but on his right to live.

Apart from these problems, which have attracted much attention in our midst, lie others, which have received little consideration, except from scientific men. These questions are concerned with the use of labour to its best advantage. They involve the determination of the efficiency of working in any particular way for a given time. They are applicable to man as well as to the horse. They can be stated in forms which admit of final answers. Industrial management connotes fundamentally a physiological problem in fatigue, to be studied by methods permitting the use of accurate measurement.

The British Health of Munition Workers' Committee has prepared a memorandum dealing with this aspect of the advantageous use of labour. They point out that different types of work and workers need a different rhythm to ensure maximal efficiency. They lay stress on the necessity of skilful observation of the output by individual workers, to discover how particular habits of manipulation lessen

fatigue. Such habits can be taught to other workmen. They insist on the selection of men for each task as the result of experiment rather than by the impressions of the foreman. Again, tests of individual capacity allow a rearrangement of workers, who can be assigned those places for which they are most fitted. When severe muscular effort is involved, more work is done by giving short spells of strenuous toil, broken by longer intervals of rest, than by requiring continuous effort. The Committee are much impressed by the results of introducing frequent periods of rest. In many series of observation they record the efficacy of rest in postponing fatigue and in augmenting output. They plead for the coöperation of the workman, who will benefit by changes carried out on the lines of these findings.

The coördination of science and industry can bring about not only better processes of working, but also better workmen. Efficiency governs progress in evolution. The effective use of the various parts of the body promotes their growth. Failure in performing function leads to retrogression of parts that are not used. What is true of individual organs is true of the body as a whole. Its perfect development depends on its effective use. The conclusions of this report deserve thoughtful contemplation by every patriot. They contain the seed of an industrial potency from which a growth of national prosperity as yet unattained may sprout.

#### THE MENINGITIS EPIDEMIC.

A stranger reading the Melbourne daily newspaper would gain the impression that the seat of Federal Government was in imminent danger of being swept out of existence by a terrible pestilence, which spread like wild-fire and demanded its toll in deaths in every house and every street throughout the city. There is no necessity to minimize the seriousness of the epidemic of cerebro-spinal meningitis, but there is equally no sense in exaggerating it. In the week ending May 7, there were 15 cases notified in the whole State of Victoria. In the weeks ending May 14, May 21, May 28, and June 4 the number of cases recorded was 22, 16, 40 and 42 respectively, making a total of 135 in the course of five weeks. The campaign in which some of the daily newspapers are engaged is no doubt a very laudable one, since it aims at awakening greater activity of the Minister and of the Health Department, but there is something to be said for the

other side. A great deal of talk has been indulged in on the assumption that epidemic cerebro-spinal meningitis can be arrested at will. Certain legal powers have been taken in the State, and it is claimed that these powers are not being exercised. If the manner in which the disease spreads were understood in every detail, and if means were available for ascertaining the sources of infection and of rendering these sources harmless, everyone would agree that neglect to utilize these means would be criminal. The task of locating every carrier of the Weichselbaum meningococcus is impossible of achievement, and while the number of undetected carriers is an unknown quantity, who can say whether there is any reason to isolate the few known harbourers of the bacterium? Moreover, there appears to be some grave doubt whether persons with meningococci in their nasal and faucial mucus are in effect capable of conveying the disease to healthy persons.

The present state of knowledge in regard to this disease renders it imperative to use the ordinary hygienic and epidemiological means in the attempt to keep it within bounds. These include immediate isolation of every recognized case of the disease; disinfection of material likely to harbour the infecting organism; destruction, as far as is possible, of insects in the vicinity of sufferers from the affection; and general improvement of the sanitary and hygienic conditions of the homes of the community. There is no doubt that overcrowding favours the spread of a disease of this nature. Unfortunately, the state of overcrowding is not easily overcome, and the collection of large numbers of men in military camps of necessity makes the task of the health authority increasingly difficult. It would seem that a highly-organized health department, working with wide powers, would have a chance of coping to some extent with an epidemic of the nature of cerebro-spinal meningitis. Under existing conditions, the disease is likely to continue among the community for some time longer, and influences which are little understood and which may not be removable by human intervention will tend to bring about its disappearance. Scars are likely to do harm, and it is almost inconceivable that a campaign of frightening the populace and worrying the health authorities could result in the evolution of a sound method of prophylaxis. The best means to provide against a disease of this kind is to encourage scientific research into the epidemiology and ætiology of the disease, and to establish facts before theories are made the basis for practical measures.

#### THE LODGES IN WELLINGTON.

The medical profession in Wellington, New Zealand, is at the present time being threatened with all sorts of pains and penalties if it continues to regulate its affairs in accordance with established custom. Arising out of the dispute with the Lodges, the Wellington Division of the New Zealand Branch of the British Medical Association considered the advisability of calling upon its members to refuse

to meet in consultation medical practitioners who were not members of the Association as long as the dispute may last. A member of parliament brought the matter to the notice of the Minister of Public Health, and drew from him a reply to the effect that a proposal of this kind was in itself unethical, and that he would deal drastically with any doctor who refused to meet any other registered medical practitioner when he was called upon to do so. The Minister seems to have made his statement somewhat rashly. Medical practitioners cannot be compelled to undertake the treatment of patients against their wishes. Moreover, it would be a useless and sterile action to bring two practitioners together for the purpose of alleviating the sufferings of a patient, when the practitioners differed in every respect in their views of medical matters. The futility of a consultation between a regular medical practitioner and a homœopath is obvious. Similarly, if a medical practitioner, who is prepared to make sacrifices to uphold the dignity of his profession, were compelled to discuss a case with a man who was prepared to prostitute his profession for a temporary pecuniary advantage it is unlikely that the patient would derive much benefit. When practitioners refuse to recognize the rules of professional ethics, it becomes necessary to debar them from the privileges of membership of the British Medical Association. The Minister should exercise common sense and realize that he is not strong enough to destroy the utility of the Association or to lower the standard of its ideals.

#### THE EFFECT OF THE WAR ON THE PRICE OF DRUGS.

The scarcity of some of the more important drugs since the commencement of the war, on account of our dependence upon Germany for the production of many of them, has resulted in very considerable inconvenience and in the establishment of fabulously high prices. Thus atropine is worth between 3d. and 4d. a grain, while eserine is worth more. The scarcity of atropine is due to the dearth of belladonna, which is obtained from Central Europe. Phenacetin is now twenty-two times the price at which it could be bought before the war, and is becoming scarcer and dearer week by week. Aspirin is also more than twenty times the pre-war price. Salicylic acid and salicylate of soda, the most commonly prescribed of all the rheumatic remedies, are both about eighteen times the price at which they could be bought before the war. Potassium bromide is worth from ten to twelve times its normal value. Antipyrine has also increased in price tenfold. These are only a few examples out of the hundreds of drugs and medicinal preparations, the values of which have increased enormously as a direct consequence of the war. There appears to be no immediate prospect of any general decline in value.

In the case of phenacetin, antipyrine, aspirin and other drugs of the coal tar series, the reason for the extreme prices is that before the war they were manufactured almost solely in Germany, and up to the present British manufacturers have not overcome the difficulties in the way of their economical production, although aspirin is now being made in England in fair quantities. Cod liver oil and malt extract are also very costly this winter.

It is announced that the Admiralty has arranged to place the services of Fleet-Surgeon A. C. Bean at the disposal of the Commonwealth Department of Defence for the purpose of organizing the medical services and establishment of the Royal Australian Navy.

## Abstracts from Current Medical Literature.

### DERMATOLOGY.

#### (231) Actinomycosis.

E. D. Newman (*Journ. Cutan. Dis.*, April, 1916) reports a case of actinomycosis in a man, aged 28 years. The patient, a farm labourer, had neither cattle under his charge, nor had he been in the habit of chewing hay or straw. Following a small swelling on the right side of the lower jaw, some teeth were extracted, as they were considered to be the cause. The swelling, however, increased slowly in size, was firm to the touch, and, after several weeks, openings discharging pus appeared on the surface. On examination, the mass on the lower jaw was observed to be about  $4\frac{1}{2}$  inches in circumference, and composed of pea to walnut-sized nodules, which were firm in consistence and of a dark reddish colour. The surface was studded with the openings of sinuses, discharging a purulent material, in which were a few yellowish grey granules. Except on pressure, the lesion was painless. The parotid duct was swollen, but there was no enlargement of the neighbouring lymphatic glands. A cough was complained of, and, on examination, a few râles were observed at the apices of both lungs, together with a pleuritic rub at the base of the right lung. There were no night sweats or hæmoptysis, but the patient had lost 20 pounds in weight in four months. Subsequently he developed on the chest wall two masses, resembling the original lesion on the jaw, one being situated above and the other below the right nipple. The signs in the chest increased, but the examination of a specimen of sputum was negative to tubercle bacilli and the ray fungus. Lesions later appeared on the ring finger of the left hand, the right forearm, scalp and adjacent to the vertebral column, at the level of the ninth rib. The ray fungus was obtained in the pus from several of these lesions. Death took place six months after the onset of the disease.

#### (232) Formalin Urticaria.

M. L. Heidingsfeld (*Journ. Cutan. Dis.*, April, 1916) describes a case of formalin urticaria. The patient, a man, aged 38 years, visited his dentist, who prepared a small cavity in a tooth for subsequent filling. He inserted in the cavity a tiny pledget of cotton wool, saturated with formalin. Almost immediately afterwards the patient experienced malaise and general weakness. An eruption of pinkish white wheals, from split-pea to thumb-nail size, appeared on the scalp and face, whilst the neck, trunk and extremities, including the palms and soles, showed a very close distribution of the lesions. The lips were thickened and there was

also some cedema of the tongue, mouth and throat, so that breathing was difficult and speech affected. The pulse was rapid and weak, and there was marked general prostration, while the eruption was accompanied by severe pruritus. The patient was obliged to take to his bed, but under local applications, together with the internal administration of alkaline salts, recovery took place gradually. Attention is drawn to the toxic action of a minute quantity of a drug, which is in common use in medicine, science, and art, and to the dangers of artificial dermatitis likely to result from its use.

#### (233) Scleroderma Associated with Disease of the Thyroid Gland.

J. H. Sequeira (*British Journ. of Dermat.*, January-March, 1916) discusses the pathogenesis of scleroderma and the association of this condition with affections of the thyroid and other ductless glands. He details the histories of four cases. In three of these cases the scleroderma was associated with Graves's disease. In the fourth it developed while the symptoms of myxoedema were being controlled by thyroid treatment. The condition was not influenced by treatment in any of the patients. Scleroderma is held by Heller to be due to lymphatic obstruction, by Hoppe-Seyler to infection, by Lewin to tropho- or angiotropho-nerve changes, and by other authors to the result of extensive endarteritis. These theories have been enunciated on account of the occasional coincidence of scleroderma, with obstruction of the thoracic duct, with scarlatina, diphtheria, erysipelas, tonsillitis, pneumonia, tuberculosis, influenza, malaria, measles, etc., and with Raynaud's disease. The coexistence with Raynaud's disease raises a question of its relation to syphilis. In some cases of scleroderma a positive Wassermann reaction has been recorded. In the author's cases the reaction was negative. The association of scleroderma with affections of the thyroid gland was first noted by Luithlen. A comparatively large number of cases has been recorded. Roques instituted treatment of this condition with thyroid extract in a series of 67 cases and obtained alleged cure in 4, improvement in 32 and no effect in 31. Osler found that thyroid extract has no specific action in scleroderma. The author agrees with this. Scleroderma has been noted in association with Addison's disease, with acromegaly, etc. The author holds that lymphatic obstruction is not a cause. It is possible that the morpheic variety may be a tropho-neurosis, but he is unwilling to express any definite opinion in regard to the cause of this condition when associated with thyroid changes.

#### (234) Secondary Lichenoid Trichophytides.

S. Rasch reports two cases of lichenoid trichophytides, in association with kerion Celsi, from the Dermatological Clinic in the Copenhagen University (*British Journ. of Dermat.*, January-March, 1916). The first patient was a

boy, aged 13 years, who was under treatment for a large kerion of the scalp. There were smaller tineal lesions on the neck, back and scapular region. Fourteen days after the commencement of the infection a dense small follicular eruption appeared on the back and chest. The papules were of a pale reddish colour; they were firm and horny to touch, but did not show any spines or bristles. The second patient was 12 years of age. She was under treatment for a large kerion of the scalp when an eruption of densely-placed miliary papules was noted on the back, chest, arms and legs. The papules were slightly coloured, very hard and almost horny. On many of them there was a small bristle or spine. No fungus was found on microscopic examination. The kerion lesion healed, but the lichenoid eruption continued to spread, and eventually covered the whole trunk. Later, the horny papules disappeared, but the delicate white bristles persisted. The author regards these two cases as typical examples of lichenoid trichophytide. This condition, which was first described by Jadassohn, appears to be quite common, since it is stated that nearly all children with kerion show it to a greater or smaller degree. It usually appears when the kerion is at its acute stage, or when it is about to fade away, and it is not accompanied by subjective symptoms. It varies greatly in extent, duration and appearance. The eruption usually consists of miliary, follicular, pale pink, pointed papules, at times surmounted by a small scale or crust. White bristles or spines may develop on some of the papules forming *Lichen spinulosus*. The condition is described as a follicular or a peri-follicular inflammation. The follicle is filled with round and epithelial cells. In the spinous form there is some parakeratosis in the wall of the follicle. The diagnosis is said to be easy.

#### (235) The Simpson Arc Lamp.

A. MacGregor gives a description of the uses of the Simpson arc lamp and a short account of its construction (*Archives Radiol. and Elec. Therap.*, April, 1916). The Simpson arc lamp owes its properties to electrodes composed of wolfram and other metallic ores. The ultra-violet portion of the spectrum in the case of this light is considerably larger than that of the carbon arc light. As a source of ultra-violet light, it is probably between five and ten times as strong as the carbon arc. The Simpson light is therefore an ultra-violet light of unusual strength, added to visible light. The rays emanating from it have no power of penetration. The lamp is run by a current of 5 to 7 amperes, at a voltage of 50-60. It may be used as an open arc or as a focussed arc. In the former case a plane sheet of metal is slipped over a metallic upright behind the electrode, and the latter are brought within 10 to 15 inches of the area to be treated. The patient is blindfolded, and all parts save those to be treated are covered. The operator wears blue lead glasses,



to prevent the development of conjunctivitis. The first exposure should not exceed one minute, but this may be increased in subsequent exposures to four or five minutes or more. In the focussed arc method a parabolic reflector is used. If the heat be excessive the distance between the arc and the patient may be increased. The light is very dazzling, and is accompanied by a spluttering, hissing noise. A white vapour is given off the metallic electrode. This vapour is used in the treatment of asthma and other respiratory diseases. The author states that definite improvement has been obtained in this way in one case of asthma. For rodent ulcer the treatment appears to effect a diminution of pain. In some cases the ulcer is induced to heal under healthy granulations. The author speaks of successful treatment of lupus, syphilitic lesions and eczema. In infected ulcers and wounds the Simpson light caused rapid diminution of pain, swelling and suppuration, and promoted healing. Some improvement is stated to have resulted from its use in rheumatoid arthritis and in exophthalmic goitre. The author finds that it is difficult at present to gauge the potentialities of the application of the light, but states that the first impression is a promising one.

#### BIOLOGICAL CHEMISTRY.

##### (236) Precipitation of Colloidal Gold by Cerebro-Spinal Fluid.

P. G. Weston has made an attempt to discover the substance in the cerebro-spinal fluid obtained from cases of general paralysis which gives rise to the precipitation of gold from colloidal suspensions (*Journ. Medical Research*, March, 1916). He has also investigated the precipitation of gold by peptones and albumoses. He concludes that colloidal gold is neither a delicate nor a reliable reagent for the detection of small quantities of peptones. He finds that the inorganic salts, the substance reducing alkaline solutions of copper sulphate and the substance reacting in the Wassermann test, which are all present in the spinal fluid from cases of paresis, do not precipitate gold from colloidal suspensions when the fluid containing them is used in the same way and in the same quantities as in Lange's test. The substance reacting in the Wassermann test is not dialyzable. The substance precipitating colloidal gold dialyzes through thimbles impermeable to albumins. This substance is destroyed by heat. It cannot therefore be a polypeptide. Its nature has not been further determined.

##### (237) Studies on Lipase.

C. Quinan (*Journ. Medical Research*, January, 1916) has continued his studies on the action of lipase in the animal body. He has examined the production of acid in the tissues, with especial reference to the nephritis due to uranium nitrate. The production of acids in tissues is ascribed to the presence of intracellular ferments. This

formation of acid is no longer to be regarded as a sign of death, but rather as evidence of the life of the cellular elements. Fresh normal tissues are acid and in weighed units the values of the pre-formed acid are constant. The amount of lipase present can be determined by estimating the quantity of acid formed after the addition of ethyl butyrate to weighed amounts of the tissues. Liver, kidney and muscle yield characteristic values by this method. In uranium nephritis the formation of acid is diminished not only in the kidneys but also in the liver and in the skeletal muscles. The tissues give low values for pre-formed acid, autolytic acid and ester-splitting activity. Some experiments suggest that the reduced activity in the formation of acid, which is characteristic of experimental nephritis, is due to an inhibition of activity of intracellular ferments by sodium chloride and other substances which are retained in the body in consequence of some change in the tubular epithelium of the kidneys induced by uranium nitrate. In chronic spontaneous nephritis there is a similar diminution in the acid values.

##### (238) Hypercholesterinæmia.

J. W. McMeans has observed the accumulation of anisotropic fats in the interstitial cells of the kidneys of rabbits fed with cholesterol (*Journ. Medical Research*, January, 1916). The animals have been fed daily by a stomach tube, either with an emulsion in olive oil or with a suspension in sodium oleate. The dose has been from a quarter to a half gramme. The feeding has been continued for over one hundred days. No changes have been observed until after fifty days. Fatty streaks develop in the aorta after that period. In addition, the interstitial cells of the medullary region of the kidney undergo proliferation, with the formation of droplets of fat within them. These drops stain with Sudan. A study of the amount of cholesterol in the organs shows that this substance is stored up, notably in the liver and the suprarenal capsules. This accumulation occurs in the vicinity of the walls of the capillaries. Later, definite fatty streaks appear in the intima of the arterioles rectæ of the kidney, in the endothelial lining of the aorta and in the internal coat of the pulmonary artery and its finer ramifications. Still later the cells loaded with cholesterol commence to multiply. This causes the characteristic macroscopical change of wrinkling. At a later stage cholesterol is found in increased amounts in the spleen and in corpora lutea.

##### (239) Creatin in the Urine.

F. H. McCrudden and C. S. Sargeant have made a study of the new method proposed by Folin for the detection and estimation of creatin in human urine (*Journ. Biol. Chemistry*, April, 1916). They had found that they detected creatin in the urine of different patients with surprising frequency after using the new method. In the new method picric acid is used instead of hydrochloric acid to convert the creatin to creatinin. They have performed a

series of control experiments which show that the new method is not reliable and that human urine contains some substance that gives the creatin reaction with boiling picric acid. Pure solutions of creatin and creatinin give accurate and similar results with both the new and the old method. The possibility that these results might be due to the presence of other reducing bodies has led these investigators to test the effects of small amounts of glucose and uric acid on the reaction. The results have been found unaffected by the addition of glucose or uric acid. They point out that, whereas the old method shows no creatin in normal urine, it does show it in the urine of cases of various muscular dystrophies, diabetes, starvation, etc. They think that no significance can be attached to the results obtained by certain investigators who have employed the new method. They have not yet isolated the substance or substances which give this reaction.

##### (240) Urinary Constants Calculated from Urea and from Iodides.

H. Chabanier and E. Ibarra-Loring (*C.R. Soc. Biol., Paris*, August, 1915) have studied urinary secretion after the administration of iodide of potash. They have determined the concentration of iodine in the blood serum and in the urine collected from the human subject at the same time. They have then employed the equation of Ambard to calculate the secretory constant. In the case of iodides, they substitute the number 52.5 for the number 25 used in the case of urea. They have also determined the urea secretory constant of Ambard in the usual manner from the amounts of urea in the blood and in the urine collected for estimation of the iodine. These methods have been applied to 16 persons. They find that a close approximation exists between the urinary secretory constants for urea and for iodides.

##### (241) Blastophthoric Effect of Chronic Lead Poisoning.

C. V. Weller has conducted a series of breeding experiments on guinea-pigs to determine the effects of the repeated administration of lead upon the family (*Journ. of Med. Research*, November, 1915). A total of 93 matings yielded 170 offspring. The weights of the newborn guinea-pigs were observed daily for some months. The conclusions drawn are that, in chronic lead poisoning in guinea pigs, there is a definite blastophthoric effect, which is manifested in some instances by sterility, without loss of sexual activity, that the offspring of a lead poisoned female are underweight at birth, and are frequently stillborn, and that a general retardation in development of the offspring of a lead-poisoned male occurs, which may lead to the offspring remaining permanently under weight. If the administration of the lead is stopped and sufficient time allowed for the excretion of the stored lead, both male and female animals seem to recover their productivity and sexual activity in full.

## British Medical Association News.

### SCIENTIFIC.

A meeting of the Victorian Branch was held at the Medical Society Hall, East Melbourne, on May 3, 1916, Dr. A. V. M. Anderson, the President, in the chair.

Dr. Sydney Pern read a paper on "Some Functions of the Thyroid Gland and their Relationship to Goitre."

Dr. Dunhill said that Rupert Farrent had injected cultures of various organisms into animals and had watched the result on the thyroid gland. Following that, he had made vaccines from organisms taken from septic foci in the nose, throat or other parts of the body found infected in cases of exophthalmic goitre. The septic focus was removed and the autogenous vaccine used on the goitrous patient from whom the culture had been obtained. Farrent reported that the results had been excellent. He, the speaker, had met McCarrison in Egypt, and had discussed his book with him. McCarrison differed from Dr. Pern in that he regarded exophthalmic and endemic goitres as being two entirely different types, and not the same type differing in degree. The first part of McCarrison's book was a magnificent piece of work, but the second part, dealing with exophthalmic goitre, was not so convincing. Sir Arbuthnot Lane regarded exophthalmic goitre as being entirely due to auto-intoxication from intestinal stasis; and his practice was to remove the large intestine to cure the goitre. If a septic focus could be found, its removal often improved the patient's condition materially. It did not always do so; and, generally, the improvement was far from complete. Cases were not uncommon, in which no septic focus could be found. Cases often occurred in women living under the best conditions of life, where the teeth and fauces had been well attended to, where there was no intestinal stasis, and where the bodily hygiene was good. The speaker thought that some cases were undoubtedly due to worry, and would be improved if the whole surroundings of the patient could be altered; this was rarely possible. Of the drugs used in the treatment of the condition he had found quinine hydrobromate and ergotin the best. Septic foci should be sought for, causes of worry removed, and medical treatment given a reasonable trial. If no improvement resulted, operation had to be resorted to.

Dr. W. Kent Hughes was struck many years ago with the improvement of a patient with goitre after the removal of post-nasal growths, although at the time he was unaware of the inter-relation. Some cases might improve after attention to septic conditions in the nose and throat. There still remained many cases in which no septic conditions could be found; and in many cases of septic noses and throats no goitre was present. There must be something in the suggestion of Dr. Pern as to other causes. In the speaker's experience it was uncommon to have septic noses and throats concomitant with goitre. He asked why it was that there was an immense disproportion between the number of cases in men and in women, and yet by far the greater proportion of dirty noses and throats were found in men.

Dr. Frank Andrew said that he had had experience of 100 cases at the Melbourne Hospital and in two dramatic cases of goitre there had been complete recovery after the sepsis had been cleared up. Not much attention should be given to infection of the colon as a cause of goitre, as its removal cured many things other than goitre. It had been suggested that because improvement of the goitres had followed the removal of the sepsis from the immediate neighbourhood, the relationship was direct; possibly the goitre was due to the pouring out of the toxins. He had not seen any cases in which gangrene of the appendix had been followed by goitre.

Dr. A. V. M. Anderson said he felt that surgical treatment was frequently the best, although it was not ideal. Goitre occasionally persisted in growing after partial removal. Of the causes of exophthalmic goitre there was the nerve factor and the influence of shock. He had seen cases of exophthalmic goitre that had been improved by the removal of the septic foci. Parenchymatous and exophthalmic goitres had been found side by side, although the causes of the two were dissimilar or antagonistic. He inquired what was Dr. Pern's experience in Gippsland. As to therapy, ex-

cellent results were obtained from ergot and quinine hydrobromate, together with good dietetic treatment. Dr. George Gibson thought that the use of adrenalin would revolutionize the treatment of exophthalmic goitre, but no permanently good result had followed in the cases he had used the remedy for. Good results had come from the administration of calcium salts. In one case he knew of, a man was going downhill rapidly. Bad teeth were removed and the tonsils excised, but no improvement was shown. Large quantities of milk were given, which produced diarrhoea, in which curd was the prominent feature. He was then put on calcium treatment, and was at the time of speaking on the way to recovery.

Dr. Pern, in reply, said that, in his opinion, the use of vaso-constrictors, such as ergotin, quinine hydrobromate and the bromides, was symptomatic and very beneficial in counteracting the vaso-dilatory effect of the excessive thyroid secretion. The number of cases with septic foci was very large, nearly 95%. It had to be borne in mind that many tonsils which did not look harmful could be made to exude pus on pressure. An extraordinary number of cases had affections of the tonsils or antra. As regards parenchymatous and exophthalmic goitres, he had found septic foci in both, and had seen parenchymatous goitres become thyro-toxic. He considered the parenchymatous goitre deficient in iodine, and as long as there was that deficiency there would be no thyro-toxic symptoms. The hereditary or congenital element played a large part in their production, as experiment has shown that if a bitch in pup had a large part of her thyroid removed, the pups were often born with large goitres. Dr. Pern regretted he had not been able to bring these views forward eighteen months ago, but had not been able to do so, owing to the difficulty in fitting in with the monthly programme.

The following have been elected members to the New South Wales Branch:—

Dr. A. J. M. Fargie, Wentworth.  
Dr. Alfred Paul, Lewisham Hospital.  
Dr. K. S. Parker, 6 Wood Street, Manly.  
Dr. T. G. C. Evans, Kyogle.  
Dr. T. Myles, Bellingen.  
Dr. P. E. Voss, c/o Dr. V. Voss, Rockhampton, Queensland.

The following have been nominated for election to the New South Wales Branch:—

Dr. Sydney George.  
Dr. Eric Wilfred Frecker, Sydney Hospital.  
Dr. C. N. Matheson, Sydney Hospital.  
Dr. W. Rae Young, Sydney Hospital.  
Dr. Phillip L. Daniel, Sydney Hospital.  
Dr. Arthur Braby, Sydney Hospital.  
Dr. Nellie A. Harrison, Sydney Hospital.  
Dr. Hyman Symonds, Sydney Hospital.  
Dr. Gladys M. Wilkes-Shaw, Sydney Hospital.

### THE MEDICAL ACTS OF SOUTH AUSTRALIA.

Our attention has been drawn by the Secretary of the Medical Board of South Australia to an inaccuracy in an article which appeared in *The Medical Journal of Australia* on April 29, 1916, pages 371-373. In this article the provisions of the Bill of 1913 were dealt with in the place of the Ordinance, No. 17, of 1844, the Medical Act of 1880 and the Medical Act Amendment Act of 1889. The 1913 Bill is not yet law, and, for the present, the three Acts enumerated above remain in force. The provisions of these enactments are as follows:—

#### Medical Board.

The Governor has the power to appoint a Board, consisting of not less than three members, who shall be members of the medical profession. One of these members shall be nominated to be President, and there shall be a Secretary. The Governor has the further power of removing any of the members, and, in the event of the death, removal or resignation of any member, he can appoint such other person as he shall think fit.

#### Duties and Powers of the Medical Board.

The Medical Board is required to issue a certificate of registration to any medical practitioner legally entitled to

become registered. The Board may cancel or suspend a certificate if any legally qualified medical practitioner is convicted of a felony or misdemeanour or if he be deprived of his qualifications. When a certificate is cancelled, the member ceases to be a legally qualified practitioner.

#### Qualifications for Registration.

The qualifications entitling medical practitioners to be registered are enumerated in the Schedule to the Medical Act Amendment Act of 1889. No person can be registered unless he holds one or more of the following: A qualification entitling the holder to be registered in the United Kingdom; the degree of a doctor or bachelor of medicine of any university in Australasia; any medical degree, diploma or license to practise granted by any university, college or licensing body of any British colony or possession, or by any foreign university, college or licensing body, provided that, in the opinion of the Medical Board, the degree, diploma or license is equal to the qualifications entitling the holder to be registered in the United Kingdom; and, lastly, proof that the applicant has passed through a regular graded course of medical study of not less than four years' duration in a British or foreign school of medicine, and has received, after due examination, a medical diploma or degree from a body recognized for the purpose, certifying his ability to practise medicine or surgery.

#### Fee for Registration.

The fee for the registration certificate is one guinea.

#### Regulations of Medical Practice.

There is no specific provision contained in these Acts empowering a medical practitioner to sue for fees. A registered medical practitioner is entitled to receive the remuneration of one guinea for attending in obedience to a summons or subpoena at any inquest, inquiry or trial, and for giving evidence, and, in addition, the sum of two guineas for the making of a post-mortem examination. If an inquest is held at a greater distance than ten miles from the residence of the practitioner he receives, in addition, the sum of one shilling for every mile of the extra distance. No fees are payable to a salaried medical officer of a hospital, gaol or public building for giving evidence in regard to a death which has taken place in the hospital, gaol or public building.

Only a medical practitioner may issue a medical certificate of the cause of death for the purpose of the registration of the death, and no burial may take place without a medical certificate of death or an order for burial signed by a coroner.

### Public Health.

#### THE HEALTH OF NEW SOUTH WALES.

The following notifications have been received by the Department of Public Health, New South Wales, during the week ending June 3, 1916:—

	Metropolitan Combined Districts.		Hunter River Combined Districts.		Remainder of State.		Total.	
	Cs.	Dths.	Cs.	Dths.	Cs.	Dths.	Cs.	Dths.
Enteric Fever ..	9	0	4	0	11	4	24	4
Scarlatina ..	45	1	4	0	70	2	119	3
Diphtheria ..	52	5	10	1	81	5	143	11
C'bro-Sp'l Menin.	1	1	0	0	5	4	6	5
Infantile Paralysis	4	2	0	0	7	0	11	2
Pul. Tuberculosis	35	16	0	0	†	†	35	16
Malaria ..	3	0	0	0	0	0	3	0

† Notifiable only in the Metropolitan and Hunter River Districts.

#### THE HEALTH OF VICTORIA.

The following notifications have been received by the Department of Public Health, Victoria, during the week ending June 4, 1916:—

	Metro- politan.		Rest of State.		Total.	
	Cs.	Dths.	Cs.	Dths.	Cs.	Dths.
Diphtheria ..	101	4	61	3	162	7
Scarlatina ..	33	1	18	1	51	2
Enteric Fever..	5	0	5	0	10	0
Pulmonary Tuberculosis	17	7	8	3	25	10
C'bro-Spinal Meningitis	16	—	26	—	42	—
Infantile Paralysis	0	—	1	—	1	—

#### INFECTIVE DISEASES IN QUEENSLAND.

The following notifications have been received by the Department of Public Health, Queensland, during the week ending June 3, 1916:—

Disease.	No. of Cases.
Diphtheria ..	29
Enteric Fever..	13
Pulmonary Tuberculosis	6
Scarlatina ..	11
Infantile Paralysis	1
Erysipelas..	1
Cerebro-Spinal Meningitis..	3

#### THE HEALTH OF HOBART.

The following notifications have been received from the Health Department, Hobart, for the month of May, 1916:—

Disease.	No. of Cases.
Diphtheria ..	22
Scarlatina ..	1
Enteric Fever..	6
Pulmonary Tuberculosis	5

#### INFECTIVE DISEASES IN WESTERN AUSTRALIA.

The following notifications have been received by the Department of Public Health, Western Australia, during the week ending May 20, 1916:—

Week ending May 20, 1910.						
Disease.	Perth. Cases.	Fremantle. Cases.	Rest of State. Cases.	Total. Cases.		
Diphtheria .. .. .	3	0	10	13		
Scarlatina .. .. .	1	2	0	3		
Pulmonary Tuberculosis	1	6	0	7		
C'bro-Spinal Meningitis	1	1	0	2		
Infantile Paralysis	0	0	1	1		

The following notifications have been received by the Department of Public Health, Western Australia, during the week ending May 27, 1916:—

Week ending Friday 27, 1910.							
Disease.	Perth.		Fremantle.		Rest of State.		Total.
	Cases.	Cases.	Cases.	Cases.	Cases.	Cases.	
Enteric Fever..	2	0	0	7	0	9	
Diphtheria ..	7	1	1	15	0	23	
Scarlatina ..	0	0	0	4	0	4	
Pulmonary Tuberculosis	3	1	0	0	0	4	
Erysipelas ..	0	1	2	0	0	3	
C'bro-Spinal Meningitis	0	0	2	0	0	2	

One case of meningitis occurred on a troopship at Albany.

#### THE HEALTH OF AUCKLAND.

The following notifications have been received from the District Health Officer of Auckland for the month of May, 1916:—

	City. Cases.	Suburbs. Cases.	Coun- try Dis- tricts. Cases.	Total Cases.
Scarlatina .. .. .	101	90	75	266
Diphtheria .. .. .	15	15	42	72
Enteric Fever.. ..	7	3	62	72
Pulmonary Tuberculosis	6	6	11	23
Septicæmia .. .. .	3	2	3	8
Infantile Paralysis ..	0	2	13	15

#### INFECTIVE DISEASES.

Bulletin No. 4 of the Quarantine Service, issued under date of May 26, 1916, contains the following information:—

##### Small-pox.

The last case of small-pox prior to the date of issue of the Bulletin in Australia was notified on May 11, 1916, at Collarenebri, New South Wales.

There have been 604 cases and 168 deaths notified in Dutch East Indies since the last report. In the Straits Settlements, 2 cases have occurred between April 4 and April 24. There were no deaths.

##### Plague.

The number of cases of plague reported in India between April 2 and April 15, 1916, was 10,444 and 8,918 deaths.

During the week ending April 6, 1916, there were 135 cases, with 67 deaths, in Egypt.

In Java, there were 103 cases, with 103 deaths, between March 11 and April 7, 1916.

No further cases have been notified in the Straits Settlements in the fortnight ending May 20, 1916. During this period there was one death.



**Cholera.**

Since the last report, 22 cases of cholera have been notified in Dutch East Indies. There have been 17 deaths. There was one case and one death between April 10 and April 24 in the Straits Settlements.

**Vital Statistics.****SYDNEY AND NEWCASTLE.**

The returns for the month of April, 1916, for Sydney and Newcastle, have been issued in No. 83 of the *New South Wales Government Gazette* on May 12, 1916.

In the metropolis of Sydney, 1,622 births were registered, as compared with 1,748, which was the average for the preceding five months of April. The birth-rate is equivalent to an annual birth-rate of 25.51. The rate was lower than that of April in the past five years, and was higher than the rate in April, 1908, 1909 and 1911. In October, 1915, it was lower, while in every other month in the past 12 months it was higher. The number of illegitimate births was 88, and the illegitimate birth-rate was equivalent to an annual rate of 1.38. This rate is considerably lower than the average for April since 1907.

The number of deaths registered during the month was 566. This is equivalent to an annual death-rate of 8.90 per 1,000 of population. The death-rate was below the mean for April during the past 10 years. In April, 1910, it was 9.00, and in April, 1915, it was 8.90. In all other years it was higher than in 1916, the highest being in April of 1912, when it was 11.28. There were 93 deaths of infants under one year of age, which is equal to an infantile mortality of 57 per 1,000 births. This rate is 26% below the average for April of the preceding five years, and is the lowest recorded for April since 1907, as well as for any month during the past year. Two persons over 90 years of age died during the month. The percentage of deaths which occurred in hospitals and other public institutions was 41.

From the table assigning the causes of death we gather that there were 109 deaths due to affections of the cardio-vascular system. These include 62 from organic diseases of the heart, 21 from cerebral hæmorrhage, 7 from atheroma and 6 from acute endocarditis. The second most frequent cause of death was malignant disease. There were 60 cases. As usual, the stomach was the commonest situation of the neoplasm. Of the infective diseases, diarrhoea and enteritis heads the list with 40 deaths. Tuberculosis comes next, with 27, of which 24 were instances of pulmonary disease, while pneumonia comes third with 24 deaths. There were 11 deaths from diphtheria, 9 from enteric fever, 7 from chronic bronchitis, 7 from broncho-pneumonia, 6 from acute endocarditis, 6 from simple meningitis, 4 from pertussis, 4 from acute bronchitis, 3 from pleurisy, 3 from cerebro-spinal meningitis, 2 from tetanus, 2 from acute nephritis, 2 from acute articular rheumatism, 2 from infantile paralysis, and one each from malaria, erysipelas, septicæmia, encephalitis and pericarditis.

Bright's disease was responsible for 26 deaths, while there were only four deaths from cirrhosis of the liver and four from diseases of the prostate. There were 11 deaths attributed to diseases of the brain associated with insanity, exclusive of four from epilepsy. Of the deaths in the puerperal condition, three were due to septicæmia.

During the month, 330 cases of diphtheria, 206 of scarlatina, 68 of enteric fever, 123 of pulmonary tuberculosis, 20 of anterior poliomyelitis, 4 of cerebro-spinal meningitis and one of malaria were notified.

The returns for the Newcastle district revealed that there were 174 births during April of 1916. This is equivalent to an annual birth-rate of 35.56. Of the 174 infants born, 12 were illegitimate. The number of deaths was 53, which is equivalent to an annual death-rate of 10.8. The birth-rate is higher and the death-rate lower than the average for April of the preceding five years.

Affections of the cardio-vascular system caused 11 deaths, diarrhoea and enteritis caused five, tuberculosis and diphtheria caused two each, pneumonia caused two and pertussis and influenza caused one each.

The Government Statistician's report on the vital statistics of the metropolis of Sydney for the month of May, 1916, has been published in the *New South Wales Government Gazette*, June 9, 1916.

The number of births registered during the month was 1,774. This is equivalent to an annual birth-rate of 27.90 per 1,000 of population. The average for the month of May during the previous five years was practically the same figure. Of the total number, 114 were illegitimate births. The illegitimate birth-rate was 1.79, which is 18% below the average for May of the previous five years.

There were 688 deaths during the month, and 121 were infants under one year of age. The death-rate is equivalent to an annual death-rate of 10.82, as compared with 10.61, which is the average for May in the previous five years. The infantile death-rate was 68, as compared with 64. Six persons over 90 years of age died during the month, one of whom was 99 years of age.

Diseases of the cardio-vascular system led to 120 deaths. Organic diseases of the heart contributed 72 of these and cerebral hæmorrhage 23. Of the infective diseases, diarrhoea and enteritis caused the largest number of deaths, namely, 47. Tuberculosis caused 41 deaths, including 33 from pulmonary disease. Lobar pneumonia caused 37 deaths, broncho-pneumonia caused 28, diphtheria caused 18, chronic bronchitis caused 14, acute bronchitis 6, enteric fever 5, pertussis 5, influenza, acute endocarditis and cerebro-spinal meningitis caused 4 each, scarlet fever caused 2, and dysentery, erysipelas, tetanus and gonorrhoea caused 1 each. There were 47 deaths from cancer, 35 from Bright's disease and 8 from diabetes. Nine deaths are tabulated under the heading "puerperal conditions," including 5 from puerperal septicæmia.

During the month, 317 cases of diphtheria, 261 cases of scarlet fever, 179 cases of pulmonary tuberculosis, 56 of enteric fever, 10 of anterior poliomyelitis, 6 of malaria, and 4 of cerebro-spinal meningitis were notified to the Health Authorities.

The returns for the Newcastle district are also given. The number of births was 193. The birth-rate is equivalent to an annual birth-rate of 39.48. Of the 193 children born, 8 were illegitimate.

The number of deaths was 58, including 9 of infants under one year of age. The death-rate was equivalent to an annual rate of 11.88, and the infantile death-rate was 46.6 per 1,000 births.

The chief causes of death are as follows: Diseases of the cardio-vascular system caused 14 deaths, including 8 from organic diseases of the heart. There were no deaths from tuberculosis, two from pneumonia and the same number from diphtheria, one from enteric fever, one from pertussis, and one from anterior poliomyelitis. Diarrhoea and enteritis caused two deaths. There were four deaths from cancer.

The cases notified to the Board of Health include 40 of diphtheria, 10 of scarlatina, 8 of enteric fever, 6 of pulmonary tuberculosis and 1 of anterior poliomyelitis.

**SOUTH AUSTRALIA.**

During the month of April, 1916, there were 870 births registered in the State of South Australia. This number is considerably lower than the number of births registered in April, 1915. The birth-rate is equivalent to an annual birth-rate of 23.76. In April of 1911 it was 24.84, in April of 1912 it was 26.28, in April of 1913 it was 30.0, in April of 1914 it was 29.52, and in April of 1915 it was 27.6.

The number of deaths registered during the month was 390, including 76 of infants under one year of age. The number of persons dying at the age of 60 or over was 143. The death-rate was equivalent to an annual death-rate of 10.68. This rate is higher than the average for April in the preceding five years. The infantile mortality is 87.35 per 1,000 births.

It appears that 67 deaths were associated with affections of the cardio-vascular system, including 47 from organic disease of the heart, and 13 from cerebral hæmorrhage. Of the infective conditions tuberculosis caused the greatest number of deaths. There were 25 fatal cases of pulmonary

tuberculosis out of a total of 34 due to the various forms of this disease. Diarrhoea and enteritis caused 25 deaths, diphtheria caused 17, bronchitis 11, pneumonia 10, enteric fever 6, meningitis 5, influenza 3, erysipelas and acute rheumatism 2 each, and morbilli and dysentery 1 each. There were 22 deaths from Bright's disease, and 25 from cancer.

In the city of Adelaide 95 births were registered during the month, which is equivalent to an annual birth-rate of 26.04 per 1,000 of population. The rate is just above the corresponding rate in the preceding five years. There were 100 deaths registered in the city, but only 63 of these were of persons usually resident in Adelaide. The uncorrected death-rate is equivalent to an annual rate of 27.48, and the corrected rate to one of 17.28.

### Naval and Military.

It has been announced that Dr. R. M. Walker, the son of Mr. C. Walker, of Fremantle, Western Australia, was serving as a surgeon-probationer on one of His Majesty's ships and lost his life during the recent naval engagement off Jutland. Their Majesties the King and Queen have conveyed their condolence with Mr. Walker by cablegram.

It is with deep regret that we have to record the death of Captain J. G. Mackenzie, of Kaneira, Victoria. The announcement is contained in the 175th list of casualties, issued on June 11, 1916, and is dated May 21, 1916.

It is reported that Major J. T. Tait is ill in hospital.

We regret to learn of the death of the eldest son of Dr. G. W. F. Paul, of Kangaroo Point, Brisbane. He was serving in the Army Service Corps, and died of illness contracted in North-West Egypt.

The following has appeared in the *Commonwealth of Australia Gazette*, No. 68, under date of June 8, 1916:—

#### Appointments.

##### Army Medical Corps.

##### To be Major—

Honorary Major J. B. Moore, Australian Army Medical Corps Reserve. Dated 5th April, 1916.

##### To be Captains—

George Edward Cole. Dated 1st March, 1915. (This cancels the notification respecting the date of appointment of this officer which appeared on page 499 of *Commonwealth of Australia Gazette*, No. 31, of 2nd March, 1915.)

Captain W. W. W. Chaplin, Australian Army Medical Corps. Dated 7th August, 1915. (This cancels the notification respecting the date of appointment of this officer which appeared on page 700 of *Commonwealth of Australia Gazette*, No. 40, of 30th March, 1916.)

Captain (provisional) J. W. Maskell, Australian Army Medical Corps. Dated 21st February, 1916.

Captain (provisional) H. H. Willis, Australian Army Medical Corps. Dated 25th April, 1916.

Captain (provisional) G. Norris, Australian Army Medical Corps. Dated 20th May, 1916.

Captain (provisional) K. McK. Doig and Captain (provisional) M. R. Hughes, Australian Army Medical Corps. Dated 1st May, 1916.

Honorary Captain N. R. Featonby, Australian Army Medical Corps Reserve. Dated 1st October, 1915.

Honorary Captain J. Dawson, Australian Army Medical Corps Reserve. Dated 1st May, 1916.

Honorary Captain G. M. Hay, Australian Army Medical Corps Reserve. Dated 26th April, 1916.

Honorary Captain O. Joynt, Australian Army Medical Corps Reserve. Dated 27th May, 1916.

Alexander Cook. Dated 3rd August, 1915.

Richard Shaw de Courcy Bennett. Dated 15th December, 1915.

Alwyn Tom Hays Nisbet and John Smythe Yule. Dated 1st March, 1916.

Norman Reginald Mathews. Dated 11th April, 1916.

Frank Nell Rodda. Dated 6th May, 1916.

Carl Oscar Hellstrom. Dated 15th May, 1916.

Ralph Alderton Baker. Dated 16th May, 1916.

Philip Sidney Parkinson. Dated 17th May, 1916.

John Thomson Anderson. Dated 19th May, 1916.

Edward Verdon Russell Fooks and Malcolm Leslie Scott. Dated 22nd May, 1916.

Eric William Beresford Woods. Dated 27th May, 1916.

#### Termination of Appointments.

Lieutenant-Colonel S. Jamieson. Dated 15th May, 1916.

Major H. J. Clayton. Dated 5th May, 1916.

Major W. K. Hughes. Dated 6th May, 1916.

Captain T. G. S. Leary. Dated 6th May, 1916.

Captain J. H. Cahill. Dated 13th March, 1916.

#### Dismissal.

His Excellency the Governor-General, acting with the advice of the Federal Executive Council, has been pleased to approve of the following change, etc., in connexion with the Australian Imperial Force, viz.:—

Army Medical Corps—

Major G. B. Carter is dismissed the service by sentence of a General Court Martial. Dated 4th March, 1916.

### Correspondence.

#### CERTIFICATES OF DEATH.

Sir,—Two months ago a patient was admitted to hospital suffering from suicidal cut-throat. He has been under constant surgical attention since then. Two weeks ago he developed septic pneumonia, and has died from same. I refused to grant a death certificate, claiming that it was due to the coroner to make proper enquiry into the man's condition. The coroner claims that I must grant death certificate. Who is correct? Where can information be obtained regarding the laws of coroners' inquests as prevail in New South Wales?

Yours, etc.,

M.B., C.M.

[The law governing the registration of deaths in New South Wales is contained in the "Registration of Births, Deaths and Marriages Act, 1899." Part VI, Clause 27, reads as follows:—

In each case of the death of any person in New South Wales the tenant of the house or place shall, within 30 days thereafter, inform the district registrar of such death and of all the particulars concerning the same, according to the forms of registration hereinbefore referred to.

There is no provision in the Medical Act or in the Coroners' Act or in the Act referred to above imposing a duty on a medical practitioner to give a certificate of death or to supply information concerning the circumstances or causes of a death. Medical practitioners usually give certificates of death to the relatives of deceased patients, utilizing a form supplied officially. This form, however, is not prescribed by law. In the case referred to, our correspondent was justified in refusing to give a death certificate. The courses open to him were:—

- (1) To refuse to give any information or a certificate, save when called as a witness under subpoena at the Coroner's Court;
- (2) To inform the Coroner's Officer of the fact of death and of the fact of the self-inflicted injury; or
- (3) To fill in a death certificate, giving the primary cause of death as "cut-throat."

In 1911 the Council of the New South Wales Branch of the British Medical Association passed the following resolution:—

That the Council is of opinion that practitioners should not use the ordinary certificate of death—Form No. 15—provided by the Registrar, except in cases where they have actually attended the deceased during life. In other circumstances, that is, where a practitioner has not attended professionally during life, it is always open to him to give a letter to the friends, which they may use for the purposes of registration.

It will be seen that the Branch Council recognize the advisability of practitioners giving a document to the relatives or friends of deceased patients for the purpose of enabling them to cause the death to be registered. The giving of death certificates in New South Wales has no

further significance, as far as the practitioner is concerned, than this. When death results from violence, or under circumstances in which foul play may be suspected, a practitioner's certificate cannot be accepted for the purposes of registration. The machinery of the law must then be put into motion, and the practitioner has no duties to perform until he is officially required either to give evidence at the inquest or to perform a post-mortem examination, or both. It is inadvisable to volunteer information, or to reply to questions put by the coroner or his agents unofficially. If he does so, he will probably not receive the fee to which he is legally entitled.]

## Births, Marriages, and Deaths.

The charge for inserting advertisements of Births, Marriages and Deaths is 5s., which sum should be forwarded in money orders or stamps with the notice, not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

### DEATH.

**JENSEN.**—On the 4th June, at Mount St. Evin's Private Hospital, Victoria Park, East Melbourne, Victoria, the dearly beloved wife of Dr. F. J. Jensen, of Seymour, Victoria, and loved mother of little Gweneth, aged 10 months, in her 30th year (late of Sydney, N.S.W.).

## Books Received.

**THE DIAGNOSIS AND TREATMENT OF HEART DISEASE**, by E. M. Brockbank, M.D., F.R.C.P., 2nd Edition, 1916. London: H. K. Lewis & Co., Ltd.; Demi Svo., pp. 120. Price, 3s. 6d.  
**PRACTICAL PHYSIOLOGICAL CHEMISTRY: A BOOK DESIGNED FOR USE IN COURSES IN PRACTICAL PHYSIOLOGICAL CHEMISTRY IN SCHOOLS OF MEDICINE AND OF SCIENCE**, by Philip B. Hawk, M.S., Ph.D.; Fifth Edition, Revised and Enlarged, 1916. Philadelphia: P. Blakiston's Son & Co.; Royal Svo., pp. 638. Price, \$2.50 net.  
**THE MORTALITY FROM CANCER THROUGHOUT THE WORLD**, by Frederick L. Hoffman, LL.D., F.S.S., F.A.S.A., 1915. Newark, New Jersey: The Prudential Press; Royal Svo., pp. 326.  
**THE PATHOLOGY OF TUMOURS**, by E. H. Kettle, M.D., B.S., 1916. London: H. K. Lewis & Co., Ltd.; Demi Svo., pp. 224. Price, 10s. 6d.

## Medical Appointments Vacant, etc.

\*For announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser," page xix.

Hospital for the Insane, Goodna, Second Assistant Medical Superintendent.

Hobart General Hospital, Junior House Surgeon.

Brisbane Hospital, Resident Medical Officer.

Education Department of South Australia, Medical Inspector.

## Medical Appointments.

### IMPORTANT NOTICE.

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429 Strand, London, W.C.

#### Branch.

#### APPOINTMENTS.

#### QUEENSLAND.

(Hon. Sec., B.M.A. Building, Adelaide Street, Brisbane.)

Brisbane United F.S. Institute.

#### WESTERN AUSTRALIA.

(Hon. Sec., 230 St. George's Terrace, Perth.)

Swan District Medical Officer.  
All Contract Practice Appointments in Western Australia.

#### Branch.

#### APPOINTMENTS.

Department of Public Instruction—New Appointments as Medical Officer, Ophthalmic Surgeon, Ear, Nose and Throat Surgeon, Physician.  
 Australian Natives' Association.  
 Balmain United F.S. Dispensary.  
 Canterbury United F.S. Dispensary.  
 Leichhardt and Petersham Dispensary.  
 M.U. Oddfellows' Med. Inst., Elizabeth Street, Sydney.  
 Marrickville United F.S. Dispensary.  
 N.S.W. Ambulance Association and Transport Brigade.  
 North Sydney United F.S.  
 People's Prudential Benefit Society.  
 Phoenix Mutual Provident Society.  
 F.S. Lodges at Casino.  
 F.S. Lodges at Lithgow.  
 F.S. Lodges at Orange.  
 F.S. Lodges at Parramatta, Penrith, Auburn, and Lidcombe.  
 Wacastle Collieries—Killingworth, Seaham Nos. 1 and 2, West Wall-end.

#### NEW SOUTH WALES.

(Hon. Sec., 30-34 Elizabeth Street, Sydney.)

#### SOUTH AUSTRALIA.

(Hon. Sec., 3 North Terrace, Adelaide.)

The F.S. Medical Assoc., Incorp., Adelaide.

#### NEW ZEALAND: WELLINGTON DIVISION.

Hon. Sec., Wellington.)

F.S. Lodges, Wellington, N.Z.

## Diary for the Month.

June 20.—N.S.W. Branch, B.M.A., Executive and Finance Committee.  
 June 21.—W. Aust. Branch, B.M.A., General.  
 June 23.—Q. Branch, B.M.A., Council.  
 June 27.—N.S.W. Branch, B.M.A., Medical Politics Committee, Organization and Science Committee.  
 June 28.—Vic. Branch, B.M.A., Council.  
 June 29.—S. Aust. Branch, B.M.A., Annual General Meeting.  
 June 30.—N.S.W. Branch, B.M.A., Ordinary.  
 July 4.—N.S.W. Branch, B.M.A., Council (Quarterly).  
 July 5.—Vic. Branch, B.M.A., Branch.  
 July 7.—Q. Branch, B.M.A., Branch.  
 July 11.—Tas. Branch, B.M.A., General.  
 July 11.—N.S.W. Branch, B.M.A., Ethics Committee.  
 July 13.—Vic. Branch, B.M.A., Council.  
 July 14.—S. Aust. Branch, B.M.A., Council.  
 July 14.—N.S.W. Branch, B.M.A., Clinical.  
 July 15.—Northern Suburbs Med. Assoc. (N.S.W.).

## EDITORIAL NOTICES.

Manuscripts forwarded to the office of this Journal cannot under any circumstances be returned.

Original articles forwarded for publication are understood to be offered to *The Medical Journal of Australia* alone, unless the contrary be stated.

All communications should be addressed to "The Editor," *The Medical Journal of Australia*, B.M.A. Building, 30-34 Elizabeth Street, Sydney, New South Wales.